

Another difficult mission was conducted in an urban environment simulation at Fort Huachuca. The MPOs were given a target list consisting of a DTOC, logistics convoy, three different motor pools, command and control aircraft, fuel point, power substation, tank platoon and command post. The MPO successfully detected and reported the DTOC, which consisted of several tents and vehicles. Then, a 96D used RemoteView software to further exploit the image sent by the MPO. He correctly located the tents and vehicles.

The MDAF provided a reliable, supportable SAR/MTI package. The MDAF demonstrated the SAR/MTI sensor payload's military utility while

conducting tactical RSTA missions. The TTPs for the employment of this payload were reviewed, revised and documented. The information and lessons learned through the MDAF will influence the Army's SAR/MTI sensor payload employment for many years to come. Initial MDAF results support PM RUS's expectations that Army UAV operators — with minimal additional training — can effectively employ a SAR/MTI sensor payload to perform RSTA missions.

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## FCS Unattended Ground Sensors

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**The Future Combat Systems (FCS) Unattended Ground Sensors (UGS) will provide remote sensing capabilities to enhance the Objective Force commander's intelligence picture. The remotely deployable UGS is an integral component of the FCS-layered sensor network and will provide enhanced threat warning, situational awareness (SA) and force protection in both tactical and urban environments for extended periods. The sensor family will be self-webbing, self-healing and network-capable for target detection, location, tracking and identification.**

The FCS UGS program is divided into two major subgroups of sensing systems: Tactical-UGS (T-UGS), which includes Intelligence, Surveillance and Reconnaissance (ISR)-UGS and Chemical, Biological, Radiological and Nuclear (CBRN)-UGS; and Urban-UGS (U-UGS), also known as Urban Military Operations in Urban Terrain (MOUT) Advanced Sensor System. The ISR-UGS will be modular and

composed of tailorable sensor groups using multiple ground-sensing technologies. A UGS field will include low-cost, expendable and multimode sensors for target detection, location and classification; and an imaging capability for target identification. A sensor field will also include a gateway node to provide sensor fusion and long-haul communications capability for transmitting target or other information to a remote operator

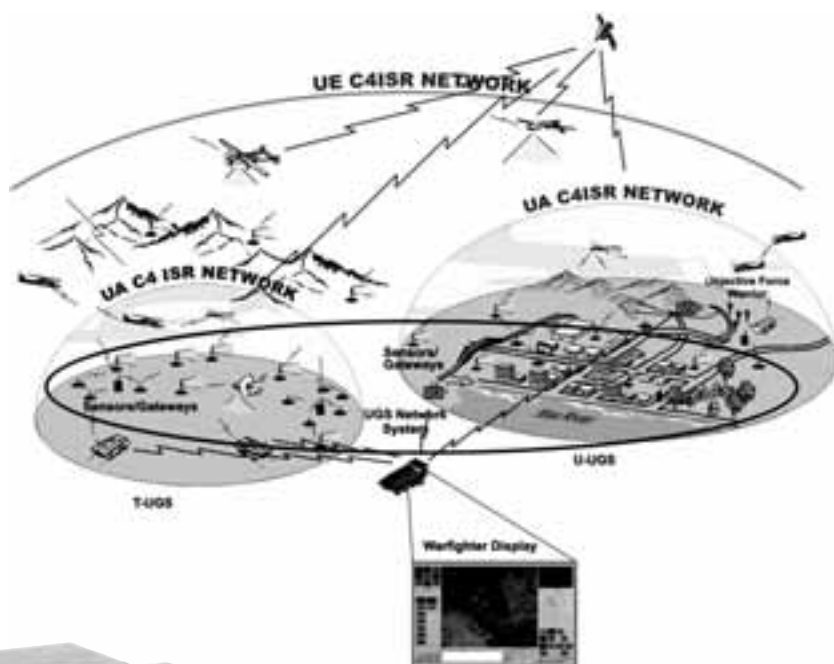
or the common operating picture through the FCS Unit of Action (UA) Network. The UGS can be used to perform mission tasks such as perimeter defense, surveillance, target acquisition and SA, including CBRN early warning.

U-UGS will provide a leave-behind, network-enabled reporting system for SA and force protection in an urban setting, as well as residual protection for cleared areas of MOUT environments. They can be hand-employed by Soldiers or by robotic vehicles inside and outside buildings and structures as depicted in the figure on Page 40.

### Program Management Approach

Unique among FCS core systems, the FCS-UGS program will be co-managed

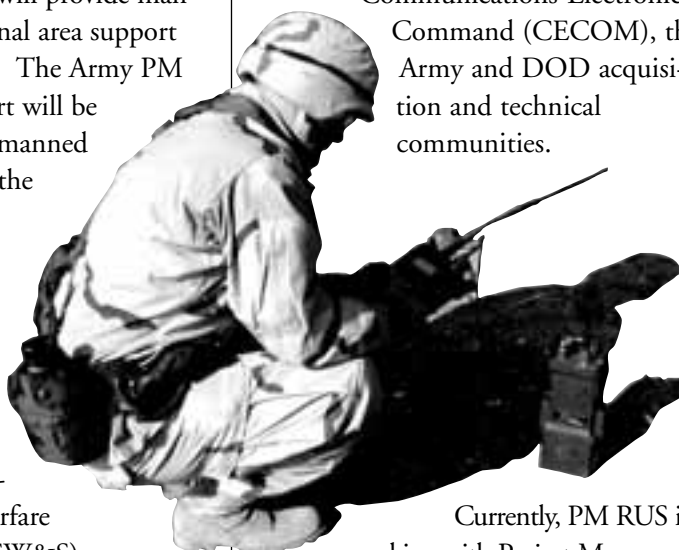




by the FCS Lead Systems Integrator (LSI), the Boeing Co., and an Army product manager (PM). The LSI will perform overall program and UGS supplier contract management responsibilities, while the Army PM will provide management and functional area support personnel to the LSI. The Army PM providing this support will be PM Robotic and Unmanned Sensors (RUS) from the Project Manager for Night Vision/Reconnaissance, Surveillance and Target Acquisition (PM NV/RSTA) under the Program Executive Office for Intelligence, Electronic Warfare and Sensors (PEO IEW&S).

This program management approach will enable both the government and industry to focus on their core area expertise in a common effort to bring a vital warfighting capability to the American

military. The LSI will focus on UGS supplier contract management and UGS integration into the FCS UA System-of-Systems, while PM RUS will concentrate on the program meeting other Army requirements and interfaces with other systems. PM RUS will act as the program conduit to the U.S. Army Communications-Electronics Command (CECOM), the Army and DOD acquisition and technical communities.



Currently, PM RUS is working with Project Manager Warfighter Information Network-Tactical on UGS communications requirements for the Joint Tactical Radio System Cluster 5 Small Form Factor variants. Also, in an agreement between PM NV/RSTA for UGS and PM Close Combat Systems

(CCS) for the Intelligent Munitions Systems (IMS), coordinated with PM FCS Network Systems Integration and PM FCS Lethality, FCS UGS will provide the Layer I sensing capability to wake up and cue the IMS field. PM RUS is working with CCS, the LSI and the UGS supplier to ensure the IMS interface requirements are defined, documented and implemented in UGS.

There has been more than \$168 million invested within the government technology base for UGS-related technologies. PM RUS will act as the agent for transferring UGS-related technologies developed as part of Science and Technology Objective programs and Advanced Concept Technology Demonstrations to the UGS program to help meet current and future requirements.

In addition, PM RUS will provide the conduit for the reverse, transferring capabilities developed under FCS to satisfy UGS needs outside FCS, such as sensors for PM Force Protection Systems, other services and allies.

The FCS UGS co-management concept will bring the cooperation between the Army and the LSI under the FCS One-Team approach to a new level. The driving force in the success of this relationship will be the dedication of personnel on both sides, with the understanding that the ultimate customer is the Soldier.

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